

Description

FENCE SLAT SYSTEM

BACKGROUND OF INVENTION

[0001] *TECHNICAL FIELD*

[0002] The present invention relates generally to slats that are inserted into a chain link fence and more particularly relates to fence slats that lock into place.

[0003] *BACKGROUND OF THE INVENTION*

[0004] Chain link fences generally are inexpensive, easy to install, and easy to maintain. Chain link fences therefore have become a popular way to secure portions of land. A chain link fence, however, may not provide a great deal of privacy. Further, a chain link fence may not be considered as attractive as, for example, a wooden fence.

[0005] Plastic fence slats may be woven between the consecutive links of the chain link fence to increase privacy, improve aesthetics, and provide wind protection. The fence slats, however, may have a tendency to slip out of the links of the fence. This slippage may cause the fence slats to be-

come misaligned and/or may reduce the overall effectiveness of the slats with respect to privacy and aesthetics.

[0006] There is a desire, therefore, for a fence slat system that quickly and easily locks the slats into place. The fence slats preferably should be easy to install and reasonable priced as compared to existing devices.

SUMMARY OF INVENTION

[0007] The present invention thus provides a fence slat. The fence slat may include a longitudinal body. The longitudinal body may include a first side with a first sidewall positioned thereon and a second side with a second sidewall positioned thereon. The sidewalls may include a locking portion positioned thereon. The sidewalls may be curved.

[0008] The longitudinal body may include a rib positioned therein. The rib also may include the locking portion. The longitudinal body may include a tube. The tube may include a substantially flat first side and a substantially flat second side. The rib may separate the substantially flat first side and the substantially flat second side. The tube may include a first end and a second end. The first end may include the locking portion. The substantially flat first side may include a terminating point adjacent to the first end.

- [0009] The locking portion may include a harpoon shape, an arrow shape, or any other desired shape. The locking portion may include a cutout portion and an elevated portion. The locking portion also may include an upper cutout portion and a lower cutout portion. A second locking portion also may be used.
- [0010] The curved sidewalls may have a curve towards or away from the longitudinal body. The longitudinal body may include one or more flat strips. The longitudinal body also may include a number of rail apertures therein.
- [0011] A further embodiment of the fence slat may include a longitudinal body with a first wall and a second wall. A pair of sidewalls and a rib may connect the first wall and the second wall. The sidewalls and the rib may include a locking portion positioned thereon.
- [0012] A further embodiment may include a fence slat system. The system may include a fence slat and a slat retainer. The fence slat may include a longitudinal body with a pair of curved sidewalls positioned thereon. The sidewalls may include a fence slat locking portion positioned thereon. The slat retainer may include a slat retainer locking portion sized to accommodate the fence slat locking portion.
- [0013] The slat retainer locking portion may include an elevated

portion with a cutout portion, an indented portion, or any convenient shape. The longitudinal body may include a number of rail apertures therein. A rail may be positioned in the rail apertures.

[0014] These and other features of the present invention will become apparent upon review of the following detailed description, when taken in conjunction with the drawings and appended claims.

BRIEF DESCRIPTION OF DRAWINGS

[0015] Fig. 1 is a perspective view of a fence slat of the present invention.

[0016] Fig. 2 is an end plan view of the fence slat of Fig 1.

[0017] Fig. 3 is a front plan view of a fence slat system of the present invention with a number of fence slats inserted through a chain link fence and with the slat retainer partially cut away.

[0018] Fig. 4 is a side cross-sectional view of the fence slat and the slat retainer of Fig 3.

[0019] Fig. 5 is a side cross-sectional view of an alternative embodiment of a fence slat of the present invention.

[0020] Fig. 6 is a side cross-sectional view of a further embodiment of a fence slat of the present invention.

[0021] Fig. 7 is a perspective view of a further embodiment of a fence slat and a slat retainer of the present invention.

[0022] Fig. 8 is a perspective view of a further embodiment of a fence slat and a slat retainer of the present invention.

[0023] Fig. 9 is a perspective view of a further embodiment of a fence slat of the present invention.

DETAILED DESCRIPTION

[0024] Referring now to drawings, in which like numerals represent like elements throughout several views, Figs. 1–2 show a fence slat *100* of the present invention. As is shown, the fence slat *100* may be in the shape of a substantially flattened tube *110*. The tube *110* may be substantially hollow. The tube *110* may have a substantially flat first side *120* and a substantially flat second side *130*. The sides *120*, *130* may be connected by a first curved sidewall *140* and a second curved sidewall *150*. The sidewalls may be any desired degree of curvature. The tube *110* further may have a rib *160* connecting the first side *120* and the second side *130*. The rib *160* may run the length of the tube *110* or only one or more portions thereof.

[0025] The tube *110* may have a first end *170* and a second end *180*. The first side *120* of the tube *110* may terminate be–

fore reaching the first end *170*. The first side *120* may terminate at about a terminating point *190*. Likewise, the second side *130* also may terminate at about the same point *190*. The sidewalls *140*, *150* and the rib *160* may form a locking portion *175* about the first end *170*. The locking portion *175* may be in a substantial "harpoon" shape below the terminating point *190*. Although such a "harpoon" shape is shown, the locking portion *175* may take any desired shape.

[0026] Specifically, the sidewalls *140*, *150* and the rib *160* may have a first cutout portion *200* that descends from the first side *120* through the width of the sidewalls *140*, *150* and the rib *160* towards the second side *130*. Although the first cutout portion *200* is shown as curved, any desired angle or shape may be used. The first cutout portion *200* may then lead to an elevated portion *210*. The elevated portion *210* may rise back towards the first side *120*. Although the elevated portion *210* is shown as being substantially vertical, any desired angle or shape may be used. The elevated portion *210* then may lead to a second cutout portion *220*. The second cutout portion *220* again descends towards the second side *130*, and more particularly, the first end *170*. Although the second cutout portion *220* is shown as

being curved, any desired angle or shape may be used.

[0027] The tube *110* generally may be made out of a plastic such as high density polyethylene (HDPE), polypropylene, rigid polyvinyl chloride (PVC), or similar types of materials. Any somewhat flexible material, however, may be used. As described above, the tube *110* may be any desired length. The tube *110* generally runs in length from about one (1) to about four (4) meters. The tube *110* may have a depth (i.e., the distance separated by the rib *160*) of about seven (7) to about ten (10) millimeters. The tube *110* may have a width (i.e., the distance separated by the first and the second side *120*, *130*) of about twenty-one (21) to about thirty-three (33) millimeters. The terminating point *190* may be about eighteen (18) to about twenty-one (21) millimeters from the first end *170*. The first cut out portion *200* may have a depth of about three (3) to about four (4) millimeters while the elevated portion *210* may rise about another two (2) to about three (3) millimeters. It is important to note that these dimensions are for the purposes of example only and that any desired dimensions may be used.

[0028] Although tube *110* has been described as using of the locking portion *175* on the first end *170*, a similar locking

portion 175 may be positioned about the second end 180 as well. Similarly, two (2) locking portions 175 also may be used about the first end 170 and the second end 180.

[0029] Figs. 3 and 4 show a fence slat locking system 300. The system 300 includes any number of the fence slats 100 woven between the links 310 of a conventional chain link fence 320. Each fence slat 100 may be locked into a slat retainer 330. The slat retainer 330 may be positioned along the bottom, the top, or both ends of the chain link fence 320. The slat retainer 330 may be made out of a plastic such as high density polyethylene, polypropylene, rigid polyvinyl chloride or similar types of materials. Any somewhat rigid material, however, may be used.

[0030] The slat retainer 330 may have a first side 340 and a substantially parallel second side 350. A base 360 may separate the sides 340, 350. The first side 340 and/or the second side 350 of the slat retainer 330 may have a locking portion 370 designed to mate with the locking portion 175 of the fence slat 100. Specifically, the locking portion 370 of the slat retainer 330 may have an elevated portion 380 of similar dimension and shape to that of the elevated portion 210 of the fence slat 100. If positioned on the first side 340 of the slat retainer 330, the elevated portion 380

may extend towards the second side 350. The elevated portion 380 of the slat retainer 330 may then extend into a cutout portion 390. The cutout portion 390 may be similar in dimension and shape to that of the first cutout portion 200 of the fence slat 100. If positioned on the first side 340 of the slat retainer 330, the cutout portion 390 may extend away from the second side 350. Both sides 340, 350 may end in a flared-out portion 400. Any desired shape may be used.

[0031] The slat retainer 330 may have any desired length. Likewise, any number of slat retainers 330 may be used. The sides 340, 350 of the slat retainer 330 may have a height similar to the first end 170 of the fence slat 100 from about the terminating point 190 down to the first end 170. Likewise, the fence slat 330 may have a width of approximately the same dimension as the tube 110 for a locking fit.

[0032] In use, any number of the fence slats 100 may be placed through the links 310 of the chain link fence 320. Likewise, the slat retainer 330 may be positioned through the links 310 on the bottom end of the chain link fence 320. The slat retainer 330 also can be used on the top end of the chain link fence 320 or on both ends. The locking portion (or

portions 175) of each fence slat 100 is inserted into the locking portion 370 of the slat retainer 330. Specifically, the second cutout portion 220 of the fence slat 100 squeezes through the cutout portion 390 of the slat retainer 330 until the elevated portion 210 of the fence slat 100 mates with the elevated portion 380 of the slat retainer 330. The fence slat 100 is now locked into the slat retainer 330.

[0033] Removal of the fence slat 100 is accomplished by pulling the flared-out portion 400 on the first or second side 340, 350 of the slat retainer 330 until the elevated portion 310 of the fence slat 100 clears the elevated portion 380 of the slat retainer 330. The fence slat 100 then may be removed through the links 310 of the chain link fence 320.

[0034] Fig. 5 shows an alternative embodiment of the present invention, a fence slat 500. Instead of the tube 110, the fence slat 500 may have a single strip 510 that runs the length of the slat 500. Attached on either end of the strip 510 may be the sidewalls 520, 530 substantially in the shape of the first and second sidewalls 120, 130 of the fence slat 100 described above. The fence slat 500 may or may not use a rib 540. If the rib 540 is used, the rib 540 may be positioned only about one end, both ends, or the length of the

strip 510. The slat 500 may include the locking portion 175 substantially as described above about the first end 170 of the fence slat 100.

[0035] Fig. 6 shows a further alternative embodiment, a fence slat 550. The fence slat 550 is similar to the fence slat 500, but instead of the inward facing first and second sidewalls 520, 530, the fence slat 550 has a first sidewall 560 and a second sidewall 570 that are curved outwardly away from the strip 510. As above, the fence slat 550 may or may not use the rib 540. If the rib 540 is used, the rib 540 may be positioned only about one end, both ends, or the length of the strip 510. The fence slat 550 may include the locking portion 175 substantially as described above about the first end 170 of the fence slat 100.

[0036] Fig. 7 shows a further alternative embodiment, a fence slat 600. In this embodiment, the fence slat 600 may be substantially identical to the fence slat 550, but with a locking portion 610 of different configuration as compared to the locking portion 175 described above.

[0037] In this example, the locking portion 610 may be largely "arrow" shaped. The locking portion 610 may extend along a first end 620 of the first and the second sidewalls 560, 570 of the strip 510. The first and second sidewalls 560, 570

may extend to an upper and lower cutout portion 630, 640. Although the cutout portions 630, 640 are shown as being substantially rectangular in shape, any desired shape or size may be used. The first and the second sidewalls 560, 570 then may continue with a further ending cutout portion 650. Although the cutout portion 650 is shown as a sharp or straight angle, any desired shape or angle may be used.

[0038] As above, the fence slat 600 may or may not use the rib 540. If the rib 540 is used, the rib 540 may be positioned only about one end, both ends, or the length of the strip 510. The locking portion 610 as described herein also may be used with the configurations shown above in the fence slat 100, the fence slat 500, the fence slat 550, and otherwise. Likewise, although the locking portion 610 is shown as largely "arrow" shaped, any desired size or shape may be used.

[0039] Because of the use of the upper and lower cutout portions 630, 640, the fence slat 600 may mate with a slat retainer 660 of somewhat different configuration. In this example, the slat retainer 660 may have a first side 670 and a substantially parallel second side 680. A base 690 may separate the sides 670, 680. One or both sides 670, 680 of the

slat retainer 660 may have a locking portion 700 designed to mate with the locking portion 610 of the fence slat 600. Specifically, the locking portion 700 of the slat retainer 660 may have an indented portion 710 on one or both sides 670, 680. The indented portion 710 may be angled and may extend within the slat retainer 600. The indented portions 710 may mate with the upper and lower cutout portion 630, 640 of the sidewalls 520, 530 of the fence slat 600.

[0040] Fig. 8 shows a further alternative embodiment, a fence slat 750. In this embodiment, fence slat 750 may include a flat first and a flat second side 760, 770 similar to the flat first and second sides 120, 130. The first and second sides 760, 770 may be connected by a first and a second sidewall 780, 790 similar to the first and second sidewalls 560, 570 in that the sidewalls 780, 790 extend outwardly. Although the sidewalls 780, 790 are showing as extending beyond the sides 760, 770, the sidewalls 780, 790 also may mate with the sides 760, 770. Any desired orientation of the sidewalls 780, 790 also may be used. The fence slat 750 also may use a rib 795 similar to the rib 540. If the rib 795 is used, the rib 795 may be positioned only about one end, both ends, or the sides 760, 770.

[0041] As is shown, the fence slat 750 also may use the locking

portion *610* in connection with the slat retainer *660*. The fence slat *750* also may use the locking portion *175* as described above with the slat retainer *330* or any similar shape.

[0042] Fig. 9 shows a further embodiment, a fence slat *800*. The fence slat *800* may take the form of any of the different slats described above. The fence slat *800* may include upper apertures *810*, *820* extending through a first and a second sidewall *830*, *840*. The apertures *810*, *820* are designed to accommodate an upper rail *850* for further stability. The upper rail *850* may extend through any number of fence slats *800*. The upper rail *850* may be made out of a plastic or any convenient material.

[0043] It should be understood that the foregoing description relates only to the exemplary embodiments of the present invention and that numerous changes and modifications may be made herein without departing from the general spirit and scope of the invention as defined by the following claims and the equivalents thereof.